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Man and His Animals*

BY

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SINCE the dawn of history man's association with animals has been intimate and continuous and in many economies his dependence on them has been, and is, absolute. Primitive man has left much evidence of this dependence on animals and he even gave it artistic expression. The drawings of wild animals in the caves of Altamira in Spain and Lacazaux in the Dordogne present us to-day, despite their age of ten thousand years, with a freshness and integrity of vision which is outstanding.

It was the hunter who domesticated the first wild animal, the ancestor of the dog, and in due course man tamed the other species in his continuous attempts to better his lot. The last to be enlisted, the horse, was to become outstanding in man's history and man's bellicosity soon adapted him to war. The horse was in continuous use for this purpose from at least 2,000 B.C. until living memory. One of the vivid recollections of my childhood was the sight of the thousands of horses and mules in the base camps of Egypt, with which Allenby's armies captured Jerusalem. Probably this was the last spectacular contribution the horse was to make in shaping events in man's world. However, the horse's place in man's affairs is firmly engraved on the tablets of history; he marched with Alexander to the banks of the Indus; on his back Jenghis Khan and his hordes swept out of the arid heart of Asia and into Europe; the Arab and the Moor, with his aid, carried the sword of Mahomet across Africa, through Spain to the Pyrenees. Although the Arabs left the beauty of the Alhambra and the gardens of Granada as visible evidence of their culture, it was unfortunate that their veterinary knowledge and skill, which was considerable, failed to survive. Europe was to have need of it.

While dynasties rose and fell and empires crumbled into dust the prosaic, everyday affairs of life went on. Man had to feed and clothe himself and to this end the less-spectacular species, the ox, the sheep, and the pig provided him with the necessities of life, as they do to-day. Their husbandry and the trade in their products were among the dominant features of economic life. England in the 13th, 14th, and 15th centuries has been described as a vast sheep walk, and the export of wool to the Low Countries and Italy was an essential part of the pattern of European trade. The wealth that this sheep industry gave to England can be seen in some of the incomparable parish churches, such as that of Chipping Camden, erected by pious flockmasters with money from the "golden fleece."

As the Englishman's skill in husbandry progressed, his ability to breed stock for particular purposes increased. However, it was not until the revolutionary methods of Coke of Holkham and "Turnip" Townsend showed the farmer how to grow crops which could be used as winter keep that animal breeding made real advances. It put an end to the autumnal slaughter of grass-fed stock, which left a bare nucleus of breeding animals to survive as best they could on subsistence rations until next year's grass. Winter food helped the farmer to fatten stock through the year; it allowed him to keep enough breeding females to experiment with, and to select on a sufficiently wide scale those progeny with the characters he desired. It was with these facilities that practical animal genetics started its scientific career. The descendants of those animals stocked the empty spaces of the new lands and even to-day in an export trade worth approximately six million pounds per annum continue to provide those trans-

* An inaugural public lecture delivered on October 17th, 1957.

fusions of fresh vigour by which the herds and flocks of these stock-raising countries supply a substantial proportion of the food and clothing of the civilised world.

The Englishman's pleasure in his animals can be studied in his art, in an entrancing series of pictures from the time of Barlow to Sir Alfred Munnings to-day. No mention of the painting of animals could be complete without mentioning the work of George Stubbs, born in this city in 1724. A delightful picture by him, "The Lincolnshire Ox," hangs in the Walker Art Gallery, as well as a few more of his works there and in the Lever Art Gallery. Apart from his artistic skill, his profound understanding of anatomy is especially appealing to the veterinary surgeon. As a result of numerous dissections of horses he produced an extremely accurate book illustrated and engraved by himself entitled "The Anatomy of the Horse" (1766). Much of his work, anatomical and artistic, was undertaken with the encouragement of John Hunter, and some of it is now part of the Hunterian Collection of the Royal College of Surgeons. Stubbs was not the only man from Merseyside who undertook veterinary studies under the stimulus of John Hunter, but more of that anon.

One of the functions of a University is to advance the frontiers of knowledge, but another of equal importance is to preserve and nurture our cultural heritage. One means to this latter end is to acquire collections of things of beauty, and indeed our Tate Collection is a not unworthy contribution to such an object. Is it too much to hope that our new Veterinary Building may in course of time house paintings, prints, and sculptures representative of the best in the English tradition of depicting animals?

Moorcroft as Pioneer

The British skill in animal husbandry was not restricted to its home of origin, for wherever our countrymen went they applied their knowledge to the raising of stock-keeping standards. The animal industries of India, Africa, Australasia, and North America were built up and expanded by the accumulated advice and experience of men brought up with stock in this country. An outstanding example of such men was William Moorcroft,[1] born in 1767 at Ormskirk. Moorcroft studied medicine in the Liverpool Infirmary, and while still a student there, investigated an outbreak of cattle plague at Ormskirk. This investigation was carried out with great ability and stimulated his interest in veterinary problems. Seeking the advice of John Hunter he was advised to obtain a veterinary training; in fact Hunter said that if he had been younger he would have done the same. As there were no veterinary schools in existence at that time in this country he enrolled as a student in the Lyons Veterinary School; leaving a year later in 1790. He returned to England and set up practice at 224, Oxford Street in London, and he was so successful that when he relinquished it to join the East India Company, the Company paid him a salary of £3,000 per annum in recompense —in 1808 values a not inconsiderable income. He proceeded to Bengal as Superintendent of the Stud of the Company, for it will be remembered that the Company had a substantial army, a considerable proportion of which was cavalry.

He soon placed the horse-breeding activities of the Company on a sound veterinary footing, but he was not satisfied with the quality of horse being bred by the imported English stallions and determined to seek more suitable sires in Central Asia. To this end he undertook a number of expeditions, which had as their primary purpose the finding of suitable stallions; but he also made reports on openings for trade, recorded geographical observations, and undertook when necessary surgical work on human patients. He mentions the performance of eleven operations for cataract in one day. In the course of his journeys he became the first Englishman to cross the Himalayas, he discovered the source of the River Sutlej, and penetrated to Bokhara in 1825. During his return from one of these journeys he was murdered. This remarkable man was probably the first Englishman to undertake formal veterinary training and it is tempting to indulge a historical might-have-been in thinking that if there had been a veterinary school in Liverpool at that time he would have been one of our first veterinary graduates.

Man's dependence on animals throughout the ages has not been without its problems, and inextricably woven into this association has been disease, affecting the balance of their relationship in an infinite variety of ways.

In historical terms it is clear that some of the major animal plagues have had profound effects on the affairs of man at different times. The incidence of animal disease affected the fortunes of war on numerous occasions and had far-reaching results on the economic well-being of many communities in peace and war. The old records lack diagnostic precision and there is considerable confusion between different infections, but we can be sure that the diseases which were of importance were cattle plague (rinderpest), contagious bovine pleuro-pneumonia, anthrax, and glanders and influenza in horses. One of the earliest of such records will be found in the 9th chapter of Exodus with its account of the sixth plague which afflicted the Egyptian cattle. The description suggests that the disease was anthrax.

Spread of Disease by War

The intervening centuries provide many records of devastating epidemics whose nature we can only guess at; but on several occasions they brought communities to the verge of destitution. Coming to modern times it is clear that the Napoleonic Wars had a by no means incidental effect on the widespread distribution of animal diseases. Between 1805 and 1809 cattle plague was brought to Dantzig by the Russian armies in their droves of cattle from the Siberian steppes, and this eventually spread throughout Prussia and the rest of Germany. It smouldered in Europe for the rest of the century, and it was as late as 1877 before it was eradicated in this country. Anthrax broke out in the cattle of the British Army at Cuidad Rodrigo in the Peninsular War, and from

them was alleged to have infected the troops. In connexion with this incident the following passage occurs in Neale's " Researches to Establish the Truth of Animate Contagions ": ". . . I ought not to omit that during the preceding very sultry and unhealthy summer, nearly all the bullocks for feeding the army had been driven up from the province of Tras Os Montes, Portugal—and on reaching the banks of the River Aguada in Spain, many of these cattle were found affected with a *murrain* and died in great numbers. The surviving cattle were driven on to the army, but, I believe, many of these were far from being sound when slaughtered—but necessity, under such circumstances, required that their flesh should be issued out to the troops; and perhaps this, too, contributed to throw the troops into the very sickly state in which they were found to be after the retreat from Burgos."

With few exceptions these epidemics and pandemics went their way despite—or because of—man's misguided and ignorant attempts to control them. No progress was possible until infectious disease was considered in aetiological terms and this had to wait until the bacteriological discoveries of Pasteur and Koch and their pupils. Their genius in evolving technical methods of studying micro-organisms and their integration of these studies made possible the spectacular advances in our understanding of infectious disease, but their influence on scientific thought was perhaps even more extensive, for they showed that the experimental method was the correct approach to elucidating the causes of many biological problems.

This re-emphasis of the experimental method, which had been tentatively, but never vigorously, pursued by Needham, Buffon, and Spallanzani, yielded a harvest in fields other than the bacteriological. The problems of pathology, clinical medicine, surgery, and agriculture benefited by this change in intellectual approach to the particular subject. Gradually a climate of opinion grew in which the study of medicine and its allied subjects became truly scientific.

It is no exaggeration to say that the structure of research into infectious diseases has been built on the foundations they laid. The financial sinews for bacteriological research into diseases of man were quickly provided, although veterinary science, at least in this country, had to wait for another fifty years, in the 1930's, before any real help was offered by government.

This early neglect is the more surprising when we recollect that a very considerable proportion of the work of the pioneer bacteriologists, several of whom were veterinarians, was on veterinary problems.

Between 1880 and 1898 the micro-organisms responsible for fowl cholera, tuberculosis including that in animals, glanders in the horse, swine erysipelas, haemorrhagic septicaemia in cattle, rabies in man and animals, tetanus, some of the gas gangrene bacilli, fowl typhoid, contagious bovine abortion, contagious pleuro-pneumonia in cattle, and foot-and-mouth disease, had been isolated or defined. Furthermore, in many instances, practical methods of control or protection had been produced for animals likely to contract these diseases. In fact it could be argued that veterinary science benefited as much if not more than medical science from these early studies. Yet such a discussion would be sterile and beside the point for it soon became clear that the study of infectious disease, whether in man or animals, is one, and to attempt to divide it along such lines can only restrict the development of our knowledge.

It is pertinent to draw attention to the inaugural address of the Professor of Pathology, Ernest Glynn, in this University in 1913. His subject was " The Study of Disease in Domesticated Animals, its importance to the Community, with a plea for an Animal Hospital." To some it may seem curious that a professor of medical pathology should devote his remarks, on this personally terrifying occasion, to such a subject. Yet it was quite proper, for pathology has a concern with disease in all its aspects in whatever species. Ernest Glynn, I think, would have been pleased to know that by to-day, not only has the Faculty of Veterinary Science a hospital within the city, with the promise of adequate laboratory accommodation in the near future, but also a field station in a proper rural environment for the study and teaching of diseases of farm livestock. This field station at Leahurst was the first of its kind in this country and has been the prototype for similar stations in other Universities.

If one accepts Payling Wright's definition of pathology as the " science concerned with abnormal states of the body, the functional disorders that accompany them, and the causes that bring them about," and if one also appreciates the widespread influence of animals on man's well-being, it becomes clear that veterinary pathology is a subject of cardinal importance in agriculture and medicine. Its ramifications are so wide that it defies attempts to present an over-all picture of its present-day scope. All one can do on this occasion is to give examples of some of its problems in the hope that they will illustrate the many ways in which veterinary pathology is concerned with man's affairs. These examples will be confined to those of microbial disease, particularly those more familiar to me, although one's argument could equally well be illustrated by examples of abnormalities in animals which are primarily biochemical, parasitological, or even genetical in origin.

There followed a number of veterinary examples described in terms appropriate to a lay audience. These examples have been omitted, with the lecturer's consent, as being already familiar to veterinarians.

New agricultural techniques may carry the seeds of new problems, but the solutions offered by the pathologist must be capable of application without undue disturbance of the pattern of husbandry. Generally speaking particular patterns of animal husbandry are adopted because they are economically viable in the context of farming conditions at the time and in the area in question. When disease interferes with profitability its control must be such that it does not unduly increase overhead costs, for the raising of farm livestock is a commercial undertaking, and the application of the veterinary pathologist's knowledge must operate within the bounds of commercial

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practicability. *Homo sapiens* may be worth poliomyelitis vaccine at many pounds a dose, but in animals one must think in shillings and even pence.

Diseases Transmissible to Man

The raising of animals for profit and pleasure produces its economic problems for man, but may also bring dangers to him.

In 1796 Jenner wrote: "The deviation of man from the state in which he was placed by nature seems to have proven to him a prolific source of diseases, from the love of splendour, from the indulgences of luxury, and from his fondness for amusement, he has familiarised himself with a great number of animals, which may not originally have been intended for his associates.

"The wolf, disarmed of ferocity, is now pillowed in the lady's lap. The cat, the little tiger of our island, whose natural home is in the forest, is equally domesticated and caressed; the cow, the hog, the sheep, and the horse, are all for a variety of purposes brought under his care and dominion."

They were not perhaps the words of an ardent animal lover but they were the words of an acute observer.

The hazards of certain animal diseases for man were well exemplified by the first Professor of Veterinary Pathology in this University, S. H. Gaiger. He contracted glanders from a diseased horse in India and the resulting infection necessitated a series of amputations of his left arm. The course of his illness which extended over several years was described by him in two carefully written scientific articles published in 1913 and 1917.

Diseases such as glanders, tuberculosis, and rabies have long been recognised as afflictions of man that can be contracted from animals, and this is also true of psittacosis, which even by that mythical character, the man in the street, is associated with an infection of birds of the parrot family.

For many years medical opinion thought that the disease in birds was peculiar to the parrot family and it was not questioned until 1938. The evidence for this change was provided by Rasmussen, a medical practitioner in the Faroe Islands, in an inspired and careful study of a peculiar pneumonia which occurred in the islanders. It was noted that the infection was seasonal in its incidence and more prevalent in women. It was the practice, during the nesting time of the fulmar petrel, for the men to lower themselves down the cliffs and remove the young fulmars from the nests. These birds were killed, and then plucked, dressed, and their breasts pickled for food by the women. Rasmussen concluded that the pneumonia in the women was contracted during these operations and the suggestion was made that the infection might be psittacosis. This opinion was confirmed by laboratory tests in Germany by Haagen and Mauer in 1938.

The Psittacosis Problem

This was the first evidence of natural psittacosis in birds other than the psittacines. In 1940 the disease was described in pigeons in South Africa and the U.S.A., and three years later in 1943, Andrewes and Mills recorded its occurrence in pigeons in this country. They examined pigeons from four separate sources: (a) those in the possession of a London dealer, (b) wild pigeons trapped in Westminster, (c) domestic pigeons from a farm in Berkshire, and (d) pigeons recently imported from the U.S.A. Psittacosis virus was isolated from birds in three of the groups including those flying wild in Westminster and on the farm in Berkshire. One had the personal opportunity to study the disease in pigeons in some detail on the farm in Berkshire, and I found that the disease was endemic in the flock, numbers of the adults were latently infected, and they infected the young birds in the nests. A high proportion of the nestlings died.

Over the next decade it became increasingly clear that many species of birds could be infected and human cases of psittacosis were described which arose from contact with birds other than of the psittacine family.

Quite recently psittacosis was diagnosed in a woman in this city, and on investigating her background it was found that racing pigeons were kept in her home. Blood tests of these birds revealed evidence of infection with psittacosis virus. A subsequent survey, by the Public Health Laboratory Service and the Department of Veterinary Pathology, of racing pigeons and feral pigeons trapped in various parts of the city has shown that the disease exists among both types of pigeon. When we think of the considerable population of wild pigeons which exists in this city, and others, and the popularity of keeping racing pigeons as a hobby, some consideration must be given to the possible public health implications of the problem. The hazards are not easily assessed, for the disease in man, especially that contracted from non-psittacine birds, may present a variety of symptoms, many of them ill-defined. In some instances the infection may have an influenza-like character, or take the form of a low-grade pneumonia which may only be detected on X-ray examination. This being so it is probable that many cases are not diagnosed, especially if no history of contact with birds is elicited. However, one has formed the impression that the disease in pigeons is not as infectious for man or as virulent as that contracted from parrots. If it was as dangerous as the classic form of the disease contracted from parrots, it is probable that by now its presence as a public health problem would have been obtrusive.

Nevertheless, vague influenza-like illness in man, especially when there is evidence of pneumonic involvement, might well repay epidemiological investigation with particular attention to possible avian contacts. The true importance of the disease and the extent of the hazard to man remain to be determined, and this is a task to be shared by medical and veterinary science based on the common discipline of pathology.

Psittacosis may be a comparatively minor problem of public health importance, but there are many others in which the veterinary aspect is fundamental. In a well-balanced human diet a substantial proportion of the food must be of animal origin, and its soundness for human consumption is an important public health responsibility. On the Continent and

in North America it is recognised, in fact it is not questioned, that the veterinarian is best suited to undertake this responsibility.

Public Health and the Profession

An adequate food inspection service must be based on inspection of the live animal, followed by *post-mortem* examination involving a sound knowledge of veterinary pathology, accompanied by bacteriological and chemical tests when necessary. For reasons which need not concern us on this occasion, food hygiene, particularly that of animal origin, is still not to any appreciable extent the responsibility of veterinarians in this country. Nevertheless this University has recognised the rôle of veterinary pathology in providing such a background, and, indeed, it has created a lectureship specifically to this end.

There are great opportunities for the veterinary pathologist, particularly the microbiologist, in public health investigation. By his aid the extent of certain hazards for man, resident in animals, can be determined, and measures for their control cannot be contemplated without his knowledge.

The problems of the modern world, with their political tensions and the danger of these tensions erupting into war, are indeed grave. Their gravity is directly related to the efficiency of the weapons which man has designed for war, but the underlying causes of tension and war remain the same, whatever the level of social development. They are economic, demographic, and emotional.

In the underdeveloped countries of the world, particularly in the colonial territories, two factors are operating which greatly increase the pressure on living space. Government has put a stop to inter-tribal war, and the medical profession is steadily reducing the death rate; as a result in many areas there is a striking increase in total population, but it cannot be said that food supplies have increased proportionately. In some of these countries the level of nutrition is lower than it was fifty years ago. Many of the diets are seriously deficient in animal protein and an adequate increase in nutritional levels can only be achieved if it is based on a livestock economy.

The effect of a serious epidemic of disease in the cattle of African tribes such as the Masai or the Dinkas will be obvious, for in such tribes every aspect of social and economic life revolves round the cattle. Even in predominantly agrarian countries such as those in S.E. Asia uncontrolled animal disease can have catastrophic effects on the economy. The whole process of rice growing may come to a standstill if the cultivators lose their draught oxen or buffaloes from epidemic disease, and rinderpest over a wide area may be a direct cause of human famine in the succeeding year.

In the more highly developed countries, increasing industrialisation creates concentrated populations of urban dwellers entirely dependent on agriculture carried on elsewhere for their food. If agriculture is to meet this need it must be more and more intensive and specialised, and we have seen how this intensification creates new problems, many of the most serious arising from disease. Adequate food supplies on a world-wide basis would do much to abate the tensions of the modern world and reduce the risks of war.

Wherever man keeps animals, whether for his profit or pleasure, or merely comes into chance contact with them, his relationship to them creates situations which need scientific understanding.

Whether it be on the baking bushlands of Africa, the outback of Australia, the fields and paddocks of this green and pleasant land, the back streets of our great cities, or even the rock-girt isles of the northern seas, there are and there will arise problems which must be solved if man is to continue to profit from and enjoy his animals.

To unravel the complexities of these problems, to acquire knowledge of their nature, and thus to avoid them or control them is the ultimate purpose of veterinary pathology. The curtailment of animal suffering and the increase of man's well-being can only come from a proper study of their causes, and their effects.

In the infinite domain of learning, veterinary pathology has its place, and its furtherance is a worthy task for the men who undertake it, and the University which nurtures them.

THE CONTROL OF FOOT-ROT IN SHEEP

An interesting paper on this subject has been published by Annie I. Littlejohn in the *State Veterinary Journal*. The author emphasises that whatever medicament is used it is essential to pare infected feet very thoroughly and to remove every portion of underrun horn. Excessive haemorrhage should, however, be avoided.

The use of various dressings is discussed. The author has found a 10 per cent. solution of formalin to be very effective. It is cheap, and has a very desirable astringent effect on the horn, and with its aid even a severely affected animal will walk soundly within a few days. It is suggested that although chloramphenicol is effective it has yet to be proved that it is sufficiently superior to formalin to justify its high cost, and that large-scale field trials are required on this point.

A method for the total eradication of foot-rot from a flock is described. The author states that provided the programme is not undertaken in warm, damp, spring weather, it is possible to achieve eradication without separating healthy and infected animals and without putting the flock onto " clean " land after treatment, although the latter is desirable. The paper is illustrated with 17 photographs of infected feet.

Squamous-cell Carcinoma of the Rumen in a Cow

BY
C. WOOD
Dumfries
AND
S. JENNINGS and W. I. M. McINTYRE
University of Glasgow Veterinary School

Subject. A 10-year-old Ayrshire cow.

History. On February 6th, 1956, the animal developed acute ruminal tympany which had to be relieved by trocharisation on 3 occasions at intervals of a few days. At this time she was in mid-lactation, being kept indoors and fed on hay and concentrates. From this time she steadily lost condition and showed a diminution in both appetite and milk yield. Diarrhoea was intermittent but at times fairly severe. Although ruminal tympany persisted it was never marked enough to merit further surgical intervention. On April 23rd, 1956, the cow was admitted to the veterinary hospital.

Examination. The general condition of the animal was poor but in spite of persistent diarrhoea it showed signs neither of gross dehydration nor of emaciation. It was dull and stood with its back slightly arched and its hind legs drawn forward; it was unwilling to move. Ruminal tympany caused a noticeable distension of the abdomen. There were bare patches on the skin over the bony prominences of the body; the hair was lustreless and could be pulled out easily. The eyes were sunken and from the conjunctiva of the right eye there was a serous discharge. The superficial lymph nodes were of normal size.

The median pulse was good in volume and its rate was 60 per minute. The cardiac rate was 60 per minute, rhythm was regular and both sounds were normal. The jugular veins were not distended and a pulsation was noticed half-way up the neck.

The respiratory rate was 18 per minute and although the inspirations were slightly deeper than normal, breathing was not laboured. Auscultation of the lungs revealed a bronchovesicular inspiration of somewhat longer duration than normal. On percussion both sides of the thorax showed normal resonance.

On examination of the mouth the only abnormalities observed were 2 small ulcers on the lateral borders of the dental pad. Palpation of the abdominal wall revealed a distinctly tympanitic rumen. A half-inch stomach tube was passed into the rumen with little difficulty. Auscultation over the rumen revealed gurgling sounds instead of the usual sounds of ruminal movement. There was no regularity in the occurrence of those sounds, the gaps between them varying from 10 to 60 seconds. They could also be heard over the right flank but were inaudible over the lower halves of both flanks. It was impossible to elicit a grunt by palpation of the xyphoid area. Severe diarrhoea was evident during examination.

The udder appeared normal and did not show induration.

On rectal examination it was found that the animal was approximately 7 months pregnant and that there was distinct tympany of the rumen. The left kidney could be palpated and was normal in size as were the para-aortic lymph nodes.

Progress. On April 23rd, the cow was given 8 gallons of hypotonic saline *per os*. From the following day until May 3rd it drank from 2 to 4 gallons of water voluntarily this being supplemented by 4 to 2 gallons of hypotonic saline drenched *per os*. During this time its appetite was variable but on no day did it eat more than 10 lb. of hay and 2 lb. of cake. Ruminal movements became audible on auscultation but the sounds were of a much more fluid nature than normal. During this period its weight remained approximately the same as it had been on admission, that is 942 lb.

Exploratory Laparotomy. An exploratory laparotomy was performed on May 3rd, 1956, when palpation inside the peritoneal cavity revealed a mass on the inside wall of the rumen just distal to the lower end of the oesophagus. On rumenotomy a red fungating mass, about 3 inches in diameter, could be seen easily with the help of a small torch. A biopsy was made from the mass. Histological examination revealed it to be a squamous-cell carcinoma.

Post-operation progress. On the day following the operation the animal appeared bright, ate a small quantity of hay and oats and drank 5 gallons of water. Ruminal sounds were present and moderate diarrhoea was observed. An examination of the blood showed the presence of a mild anaemia. On the fourth post-operative day she aborted and she was slaughtered the following day, the prognosis being considered hopeless.

Post-mortem *Findings.* Lesions were confined to the rumen and to the regional lymph nodes. A large ulcerated area of 10 cm. diameter was situated on the wall of the rumen immediately posterior to the opening of the oesophagus into the groove.

The tumour appeared to be infiltrating all of the mural coats but was retained by the serosal surface. The crater of the ulcer, to a depth of 4 cm., was occupied by a lobulated, fungating and partly necrotic squamous carcinoma. The local lymph nodes were enlarged and contained deposits of tumour. The carcase did not set and was condemned.

Comment.—Squamous-cell carcinoma of the rumen of cattle has not often been reported. Cotchin (1956) quotes Kock and Fourie (1928a) as having reported two cases. Plowright (1955) reports three cases and states that it may be a common condition in a remote locality in Kenya. He also gives a review of the earlier literature. In the cases of malignant neoplasia of the oesophagus and rumen in cattle reported by Plowright, the symptoms noted were of a progressive

(*Concluded at foot of adjoining column*)

A Comparison of the Immunity Produced in Guinea-pigs by the Inoculation of Living, Heat-killed and Adjuvant Vaccines Prepared from *Br. abortus* Strains 45/20 and S.19

BY

A. McDIARMID and F. B. SUTHERLAND

Agricultural Research Council, Field Station, Compton, Berks

SUMMARY.—A killed non-agglutinogenic adjuvant vaccine prepared from the rough strain 45/20 *(McEwen)* Br. abortus *is capable of engendering considerable immunity in guinea-pigs in no way different from that obtained with the living strain; it is considered that this new antigen is well worthy of further trial as an immunising agent against brucellosis in adult cattle.*

RECENTLY, McEwen and Samuel (1955) have shown that heat-killed adjuvant vaccines prepared from *Br. abortus* strain 45/20, protected small numbers of guinea-pigs against subsequent challenge with virulent organisms. Because of the possible practical value of such a non-agglutinogenic killed antigen for adult vaccination in any future eradication scheme for bovine brucellosis, this method of immunisation was considered worthy of further investigation in larger groups of guinea-pigs at Compton; consequently an experiment was planned to compare the respective merits of 45/20 and S.19 when both these strains were treated in this way. This present paper describes the results of these experiments and confirms the original view of McEwen and Samuel concerning the efficacy of 45/20 adjuvant vaccine in guinea-pigs.

Plan of Experimental Work

It was decided to employ 420 guinea-pigs, consisting of 3 separate replicates of 140 in each group. The subdivisions of these main sections and their various treatments are outlined below. The guinea-pigs (20 in each group) were vaccinated with 0.2 ml. of:—

In Ringer

(1) 45/20 (Living) } 48-hour growth on Albimi agar standardised to Brown's Tube 10, diluted 1 : 5 in Ringer.
(2) S.19 („) }

(3) 45/20 (Dead) } As above but steamed for 1 hour at 100° C. prior to injection.
(4) S.19 („) }

With adjuvant

(5) 45/20 (Dead) } As for Groups 3 and 4 but diluted with adjuvant 1 : 5 instead of Ringer and then homogenised. The adjuvant consisted of four parts of liquid paraffin and one part of "Falba." The strains of brucella employed in the preparation of the vaccines were derived from original non-passaged strains which had been maintained in the dry state.
(6) S.19 („) }

(7) Controls : not vaccinated.

Serological Tests.

Blood was collected by cardiac puncture from the guinea-pigs subsequent to vaccination in order to determine the presence or absence of Brucella agglutinins by the standard agglutination test.

Infective Dose

This was applied 8 weeks after vaccination. Strain 544 *Br. abortus* was grown for 48 hours on Albimi medium, standardised to Brown's Tube 3 and diluted to 10^{-7}. Each guinea-pig received 1.0 ml. of the 10^{-7} suspension subcutaneously at a point remote from the site of vaccination. This dilution gave a viable count on Albimi medium of 200 per ml. in the first trial, 390 per ml. in the second and 380 in the third.

The guinea-pigs were killed 8 weeks after the application of the challenge dose, the criteria of infection being the presence or absence of *Br. abortus* on Albimi plates seeded from the emulsified spleen tissue, spleen weight/bodyweight ratio and blood sero-agglutination titre.

Results and Discussion

The results, based on the means for the different vaccinated groups, are shown for each of the 3 replicates in Tables I to III. Table IV shows the results obtained in the non-vaccinated controls. A summary of these findings, based on the demonstration of infection in the spleen, is shown in Table V, and Fig. 1 depicts, graphically, the immune response to the different vaccines in each of the 3 trials. No agglutinins to smooth antigen were demonstrated in samples of blood obtained from any of the three 45/20 groups prior to the application of the challenge doses.

Squamous-cell Carcinoma of the Rumen in a Cow.—*Concluded.*

loss of condition, with the most characteristic feature being chronic rumenal tympany, easily visible as a distension of the left flank, which Plowright considers to be due doubtless to a disturbance of the mechanism of regurgitation, either by infiltration of the oesophageal wall or projection into its lumen by the oesophageal tumours, or by involvement of the oesophageal groove by the rumen tumours. In the case described here, the oesophageal groove was not involved.

Acknowledgment.—The biopsy diagnosis and *post-mortem* examination were carried out by Dr. W. F. H. Jarrett.

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TABLE I

THE RESULTS OBTAINED IN TRIAL 1 IN THE VACCINATED GROUPS

Living vaccine				Dead vaccine (in Ringer)				Dead vaccine (with adjuvant)			
Number of guinea-pigs	Mean blood sero-agglutination titre	Mean number of *Br. abortus* in spleen	Mean percentage spleen/body-weight	Number of guinea-pigs	Mean blood sero-agglutination titre	Mean number of *Br. abortus* in spleen	Mean percentage spleen/body-weight	Number of guinea-pigs	Mean blood sero-agglutination titre	Mean number of *Br. abortus* in spleen	Mean percentage spleen/body-weight
					45/20						
20	1 : 50	158	0·2	20	1 : 293	8,765	0·3	19	1 : 85	5,629	0·1
					S.19						
18	1 : 46	275	0·2	20	1 : 481	6,938	0·2	20	1 : 433	9,225	0·2

TABLE II

THE RESULTS OBTAINED IN TRIAL 2 IN THE VACCINATED GROUPS

Living vaccine				Dead vaccine (in Ringer)				Dead vaccine (with adjuvant)			
Number of guinea-pigs	Mean blood sero-agglutination titre	Mean number of *Br. abortus* in spleen	Mean percentage spleen/body-weight	Number of guinea-pigs	Mean blood sero-agglutination titre	Mean number of *Br. abortus* in spleen	Mean percentage spleen/body-weight	Number of guinea-pigs	Mean blood sero-agglutination titre	Mean number of *Br. abortus* in spleen	Mean percentage spleen/body-weight
					45/20						
18	1 : 134	1,333	0·2	19	1 : 477	12,608	0·3	17	1 : 785	8,020	0·3
					S.19						
19	1 : 97	1,833	0·2	17	1 : 200	6,778	0·3	19	1 : 278	10,895	0·3

TABLE III

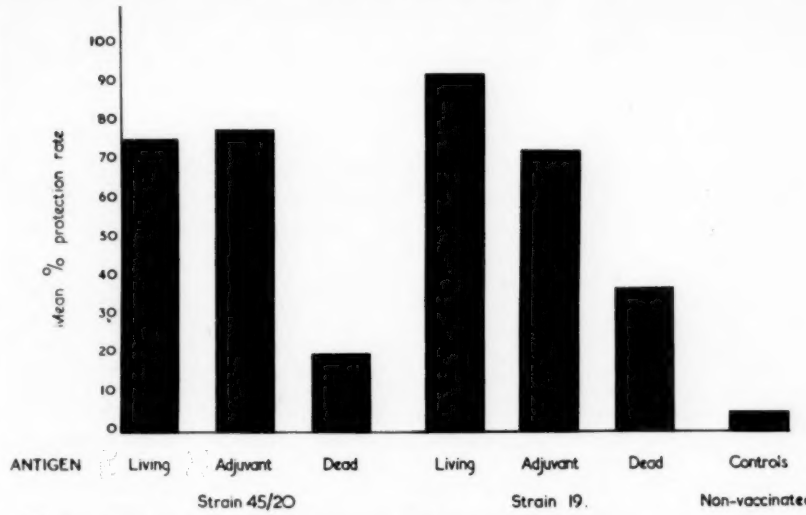
THE RESULTS OBTAINED IN TRIAL 3 IN THE VACCINATED GROUPS

Living vaccine				Dead vaccine (in Ringer)				Dead vaccine (with adjuvant)			
Number of guinea-pigs	Mean blood sero-agglutination titre	Mean number of *Br. abortus* in spleen	Mean percentage spleen/body-weight	Number of guinea-pigs	Mean blood sero-agglutination titre	Mean number of *Br. abortus* in spleen	Mean percentage spleen/body-weight	Number of guinea-pigs	Mean blood sero-agglutination titre	Mean number of *Br. abortus* in spleen	Mean percentage spleen/body-weight
					45/20						
20	1 : 126	8,348	0·2	20	1 : 580	33,503	0·4	20	1 : 274	983	0·2
					S.19						
20	1 : 138	150	0·2	20	1 : 2,114	21,960	0·5	20	1 : 812	5,513	0·3

TABLE IV

THE RESULTS OBTAINED IN THE CONTROL NON-VACCINATED GROUPS IN EACH OF THE THREE TRIALS

Trial 1				Trial 2				Trial 3			
Number of guinea-pigs	Mean blood sero-agglutination titre	Mean number of *Br. abortus* in spleen	Mean percentage spleen/body-weight	Number of guinea-pigs	Mean blood sero-agglutination titre	Mean number of *Br. abortus* in spleen	Mean percentage spleen/body-weight	Number of guinea-pigs	Mean blood sero-agglutination titre	Mean number of *Br. abortus* in spleen	Mean percentage spleen/body-weight
20	1 : 1,654	12,510	0·5	17	1 : 1,544	55,235	0·4	20	1 : 3,824	39,330	0·7



Mean Protection Rate afforded by Strains 45/20 and S.19 as Living, Dead and Adjuvant Vaccines

The non-vaccinated controls showed a high rate of infection, from 90 to 100 per cent. according to the trial, and although a limited amount of protection was afforded by the two dead vaccines in Ringer, it was of little or no significance when compared with the controls. On the contrary, both strains, as was to be expected from previous experiments, conferred a high degree of protection when employed in the living state, S.19 giving a slightly better protection rate than 45/20. This has always been our experience with these two vaccines in previous trials both in guinea-pigs and in cattle. The adjuvant vaccines prepared with liquid paraffin and "Falba" both showed a similar protection rate, 21.4 per cent. of those guinea-pigs vaccinated with 45/20 becoming infected compared with 27.1 per cent. of those receiving S.19. It is of interest to note that the adjuvant vaccine prepared from 45/20 appeared to surpass even the living antigen prepared from this particular strain.

These results confirmed the fact that 45/20 when killed by steaming and suspended in an oily base with "Falba" is capable of engendering considerable immunity in guinea-pigs to brucellosis, this immunity being at least as effective as that produced by the living strain. The possibility that such an effect might also be obtained in cattle is well worthy of further investigation, as such a vaccine would be safe from mutation or variation, a hitherto important disadvantage of living 45/20; it would also be easier to prepare and store, and furthermore, would be non-agglutinogenic. It could, therefore, with considerable advantage readily be used as a useful adjunct to the present immunisation campaign against brucellosis. If vaccination with S.19 in calfhood was eventually restricted to the 6-month-old age group, a possibility which is more than likely, as immunisation in calfhood with one dose of S.19 vaccine is now known to be effective for the average milking life of the cow (recent observations at Compton, 1957), the non-agglutinogenic killed antigen, even if not so effective an immunising agent as S.19, might still be of some value for adult vaccination in those herds where it was considered desirable to vaccinate older animals in addition to the younger age group. Consequently, with this prospect in view, extended trials of this new vaccine in cattle of

(*Concluded at foot of col. 1 overleaf*)

TABLE V

INFECTION RATE, BASED ON RECOVERY OF ORGANISMS FROM THE SPLEEN IN VACCINATED GUINEA-PIGS EXPOSED TO A CHALLENGE DOSE OF *Br. abortus* 8 WEEKS AFTER VACCINATION AND KILLED 8 WEEKS LATER

Adjuvant vaccine, *i.e.*, organisms killed by heat and suspended in liquid paraffin and "Falba"	Dead organisms killed by heat and suspended in Ringer	Living organisms in Ringer
45/20		
1st Trial 5/19 (26·3 per cent.)	15/20 (75·0 per cent.)	3/20 (15·0 per cent.)
2nd " 4/17 (23·5 ") (21·4 per cent.)	16/19 (84·2 per cent.) (79·7 per cent.)	5/18 (27·8 ") (24·2 per cent.)
3rd " 3/20 (15·0 ")	16/20 (80·0 ")	6/20 (30·1 ")
S.19		
1st Trial 8/20 (40·0 per cent.)	12/20 (60·0 per cent.)	1/18 (5·6 per cent.)
2nd " 2/19 (10·5 ") (27·1 per cent.)	7/17 (41·2 ") (63·15 per cent.)	2/19 (10·5 ") (7·1 per cent.)
3rd " 6/20 (30·0 ")	17/20 (85·0 ")	1/20 (5·0 ")
Controls		
Not vaccinated		
1st Trial 18/20 (90·0 per cent.)		
2nd " 16/17 (94·1 ") (95·0 per cent.)		
3rd " 20/20 (100·0 ")		

In Brief

MICROBIOLOGY OF THE GUT—II

The beneficial effects of antibiotic supplementation of the diet of young animals, pigs, and poultry in particular, are now well recognised, and marked growth responses to aureomycin have also been observed in premature infants (Carter, 1954); the value of such additions for ruminants, however, is less well substantiated. This may be because of both the peculiarities and importance of the rumen microflora and the limitations of our knowledge of it. Knodt (1953), and more recently Lassiter (1955) and Porter (1956), have reviewed the subject, concluding that antibiotics are of value in the calf in increasing growth rate, and in reducing the incidence of scouring and thus of calf mortality; however, their direct effects on the rumen flora have yet to be fully investigated. In the adult, Barrentine, Shawver, and Williams (1956) have shown the efficacy of antibiotics in the prevention of bloat: the rate of rumen fermentation in bloated animals is significantly higher than in normal animals grazing the same pasture (Hungate *et al.*, 1955), and penicillin was apparently particularly effective in reducing rumen microbial activity. Similarly, Turner and Hodgetts (1952) demonstrated in adult sheep a marked reduction in the numbers and activity of rumen bacteria following administration of aureomycin. A comprehensive review of the literature on bloat has been published recently by Johns (1956).

Appreciation of the potential dangers and undesirable sequelae of the increasingly widespread use of antibiotics has lessened of late, probably because no resultant large-scale catastrophies or epidemics—for example, of antibiotic-resistant pathogens—have yet overtaken us in agriculture and the veterinary field. Nevertheless, we should take heed of medical experience; the spread of resistant strains of staphylococci constitutes a most important health problem and the incidence of strains resistant to an antibiotic appears to be related to the frequency and intensity with which that antibiotic is used (Finland, 1955). Kirby and Ahern (1953) and Graca (1956) have illustrated graphically the startling increase (14 per cent. in 1946 to over 75 per cent.) in antibiotic-resistant staphylococci in hositals in recent years, and the seriousness of the matter is evident in the data of Binns (1956) and Gould (1957). Gould has implicated penicillin in the environment and atmosphere of a factory handling and dispensing that antibiotic in the selection and maintenance of penicillin-resistant strains of *Staphylococcus pyogenes*; this merits the most serious attention since in all probability the same mechanism operates in hospitals, and may well do so in other semi-closed animal communities where antibiotics are in regular use. Tee (1957) has observed an increase from 11 per cent. in 1954 to 47 per cent. in 1956 in the incidence of penicillin-resistant *Staph. aureus* in herd milk samples from some 120 herds in Dorset, the general *Staph. aureus* infection rate in both years being about 80 per cent.; thus in 1956 well over half the strains isolated were penicillin-resistant.

The development of antibiotic resistance is not always undesirable and may sometimes be beneficial. However, the danger is, of course, that the organisms involved may be pathogens, the antibiotics concerned being then valueless therapeutically in controlling their spread and combating the diseases they produce (see Williams Smith & Crabb, 1956, 1957). Other sequelae, such as "superinfections," hypersensitivity, and the many possible effects of antibiotic disturbance of the host-flora relationship are also considered by Binns and Graca, and more recently by Schindel (1957). Lowbury and Hurst (1956) have demonstrated marked changes in important characteristics of *Streptococcus pyogenes* on acquiring resistance to tetracyclines, this presenting potentially vast problems for the laboratory diagnostician and taxonomist. In a survey of 5,000 milk samples Berridge (1956) found that penicillin was "frequently present," and Stoltz and Hankinson (1954) have shown that residual aureomycin and streptomycin in market milk consumed by man can significantly reduce the coliform content of his gut, which they suggest may result in a decrease in intestinal synthesis of beneficial vitamins. Veterinary surgeons (and others) may thus consume antibiotics originally administered to their patients, possibly with undesirable effects.

C. A. E. BRIGGS (September, 1957).

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A Comparison of the Immunity Produced in Guinea-pigs, etc.—*Concluded.*

breeding age have commenced at this Field Station.

Acknowledgment.—We are indebted to Dr. A. D. McEwen of the Moredun Institute for supplying sufficient "Falba" for the preparation of these vaccines.

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The Value of Routine Testing for Pancreatic Enzyme (Trypsin) Deficiency in Canine Faeces

BY

M. ELIZABETH DAVIES

Canine Health Centre, Animal Health Trust, Kennett, Nr. Newmarket

FOR some years now this Routine Diagnostic Laboratory has been receiving large numbers of faecal samples from dogs suffering from various enteric disturbances, the cause of which has proved difficult to establish. The predominant characteristic of all these cases is an increased bowel mobility, which varies from a slight looseness to severe diarrhoea. Other signs commonly present are nausea, marked debility, inappetence, loss of condition, and emaciation. In all of them repeated bacteriological and parasitological examinations have failed to show an infective agent, and extensive medication has given at most only a temporary remission.

During the course of practice it has been observed by Hodgman that some of these cases, which for convenience can be grouped together under the title of non-specific diarrhoea, responded favourably to treatment with pancreatic extract if this was administered orally in fairly large doses of at least 12 grains per day, irrespective of breed. It was therefore decided to include a test for the enzyme trypsin as a routine procedure on all samples of faeces sent to the laboratory. In this test, a modification of the technique used by Jasper (1954) and Harrison (1949) was used.

A suspension was prepared from 1 gramme of faeces, in 10 ml. of a 1 per cent. sodium carbonate solution, and diluted serially by means of a dropping pipette to give final dilutions of faeces 1:20, 1:100, 1:200, 1:1,000 and 1:2,000 in sodium carbonate. These dilutions were selected after it had been found that the titre of free trypsin in the faeces collected from 80 healthy dogs varied from 1:20 to 1:2,000.

The test was carried out by transferring one drop of each dilution of faeces to a strip of gelatin film. The film side of an X-ray plate was used. One drop of 1 per cent. sodium carbonate solution was included as a control. The film was placed in a glass Petri dish, in the cover of which was a filter paper moistened with water, to counteract any possible drying of the drops. The dish was incubated at 37° C. for 30 minutes and allowed to cool at room temperature. The film was then flooded gently but thoroughly with cold tap water, when all soluble products derived from the gelatin film by the action of any trypsin in the sample, were washed away, leaving cleared areas on the strip. The drop of the highest dilution to show complete clearing was taken as the titre of free trypsin in that sample.

Faeces from 130 cases were examined by this test and a positive result obtained in 32 of them. In 25 of these positive cases, no free trypsin was detected in the sample, while the remaining 7 cases showed a titre of 1:10 or 1:20. Only 8 of the 32 samples showed the greyish colouring and greasy foamy consistency typical of pancreatic dysfunction.

An effort was made to follow up the progress of the 32 positive cases through the collaboration of the veterinary surgeon in charge. This proved possible in 26 of them, and it was learned that pancreatic extract had been administered to 16 of the dogs. There had been a marked improvement which appeared to be maintained, in 10 cases, *i.e.*, 62.5 per cent., and a temporary improvement in 3 cases. One of these 3 was subsequently put down for other reasons, while another was diabetic and died shortly after treatment with pancreatic extract was begun. The condition of the third dog to show only temporary improvement was complicated by nervous disorders with frequent relapses, and no conclusion could be drawn as to the value of the extract. Two dogs received the extract but showed no improvement, and one died. Its condition had been complicated by nephritis and its diet had been abnormal for a number of years. Another dog was reported by Fraser to be unable to utilise capsules of pancreatic extract, these being either vomited or passed intact *per rectum*. The dog was then given a proprietary food already pancreatised, and this was found very beneficial. Although occasional relapses with colitis occurred, there was a general improvement in the dog's health.

In the other 10 positive cases referred to above, where pancreatic extract was not given, it was reported that the condition had appeared to respond to other measures such as worming, change of diet and chemotherapy with antibiotics, used at the time of testing. In several cases all trace of the patient had been lost.

These observations are being recorded in the hope that they may be of help to veterinary surgeons attempting to treat cases of this kind.

Acknowledgments.—I should like to thank all the veterinary surgeons who kindly co-operated with me in this survey and Miss J. J. Clarke for her competent technical assistance.

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The 1957 Congress Proceedings

On December 7th it is proposed to publish the full scientific proceedings of the 1957 Congress as a special additional number of THE VETERINARY RECORD. As this will entail a large and costly volume the number of spare copies will be limited. Organisations or individuals who are likely to require extra copies (price 12s. 6d.) are asked to notify the B.V.A. as soon as possible.

XUM

News and Comment

THE BENJAMIN WARD RICHARDSON LECTURE

This year's lecture will be delivered by Mr. Horace Thornton, Chief Veterinary Officer, Newcastle upon Tyne. It will be entitled "Some Problems of Slaughter and Meat Inspection and their Need for Investigation by Research Workers," and will take place on December 11th at 2.30 p.m. at the headquarters of the Royal Society of Health, 90, Buckingham Palace Road, London, S.W.1. The chairman will be Professor Harold Burrow and members of the profession are invited to be present. It is requested that notification of attendance should be sent to the secretary ten days in advance.

UNIVERSITY NEWS

Liverpool

At its meeting on November 5th the Council of the University made the following appointments:—

Lecturer in Veterinary Anatomy: Dr. T. D. Glover, M.A., B.SC., M.R.C.V.S.

Lecturer in Veterinary Medicine: Mr. L. Arnall, B.V.SC., M.R.C.V.S.

Lecturer in Veterinary Pathology: Miss Joan B. Hopwood, B.V.SC., M.R.C.V.S.

Lecturer in Veterinary Physiology: Dr. A. H. Sykes, B.A., DIPL.AGRIC.SC.

In addition, the post-graduate scholarship in Veterinary Parasitology was awarded to Mr. S. Barrett, B.V.SC., M.R.C.V.S.

Degree of B.V.Sc. Second Examination. Part III (Animal Management). November, 1957.

Carding, A. H.; Hardy, B. D. W.; Proudlove, A. J.; Rigby, J. P.; Thomson. Judith A.

Third Examination. Part I (Pharmacology). November, 1957.

Aspinall, Kathleen M.; Callender, D. E.; Chesworth, A. T.; Davidson, P. A. S.; Davies, H. S.; James, W; Jenkins, J. T.; McMurtry, M. J.; Michael, H. P.; Miller, J. K.; Moody, Enid; Neil, D. H.; Quartey-Cofie, J. E.; Schofield, J. B.; Wild, G. S. P.; Worthington, P. T.; Zanetti, P. J.

THE POULTRY ASSOCIATION

The National Poultry Association of the United Kingdom has changed (from December 15th) its London address from Wigtown House, 206, St. John Street, London, E.C.1, to The Poultry Centre, 19, Compton Terrace, London, N.1.

ERRATUM

The authors of last week's paper, Multiple Fractures in a Collie: Osteogenesis Imperfecta, have asked us to correct the legend for Fig. 1. The numbers 973 and 933 should have been omitted, as they referred to animals other than pups L2 and L3.

HOLIDAY EXCHANGES

The summer of 1957 was a somewhat disappointing one in terms of exchange visits between the children of veterinary surgeons in this country and abroad. There is general agreement as to the real value of these exchanges, both in cementing current friendships between veterinary surgeons in different countries, but also—since so many practices are handed on from one generation to the next—between the probable veterinary surgeons of to-morrow.

The B.V.A. is glad to help, but its resources are limited. If next year's holiday arrangements are to be more successful than this year's, two things would be of very great help to the secretariat. Firstly, they would like to know as early as possible of families in this country who are contemplating exchange visits for their children next year, so that a long enough list may be maintained to permit of imaginative "matching up" with opposite numbers abroad.

Secondly, it would be most helpful to know of any families in this country who, during 1957, have entertained children from veterinary families on the Continent, with an indication of any plans they have in hand for following up these contacts next summer.

Many German and (though to a rather less extent) many French children were disappointed in their hopes of visiting Great Britain last summer, and the great majority of them would gladly accept the opportunity of doing so next year. In the meantime, two new requests have reached us from:—

France

Two brothers, Gérard and Jacques Marchand (aged 15 and 14 respectively) would like to arrange exchange visits with a family in this country, preferably one with several children and living either near Newhaven or in Cornwall, Gérard visiting England for three weeks or a month either at Easter or in September, and Jacques for a month in July or August. The family are Catholic and live in Rouen; besides Jacques and Gérard, there is another boy of 13 and a girl of 12.

R.C.V.S. EXAMINATIONS

M.R.C.V.S. written examinations will be held on December 5th and 6th. M.R.C.V.S. practical and oral examinations (Panels "A" and "B") commence on December 9th.

MR. A. M. McNIVEN

Messrs. Malcolm MacColl and W. Grant write:—

Many readers of THE VETERINARY RECORD will be grieved to hear of the death of Archie McNiven on October 31st. He had been ill since August 14th and had spent 8 weeks in the Vale of Leven Hospital at Alexandria, where he had been under treatment for coronary thrombosis. His illness was really a second attack of cardiac disorder within the last 7 years. Although he was progressing favourably in hospital, it was deemed advisable to allow him to convalesce at his own home, but after a few days Archie con-

tracted influenza, which was superseded by a further heart attack from which he did not recover.

Born in Alexandria in 1902, he was educated at Vale of Leven Academy and in his very early years he showed his deep love and affection for animals and for the country life around him. The son of a carriage hirer, horses were his first love. On qualifying at Glasgow Veterinary College in July, 1926, Archie spent some years in country practice at Alloa, in Clackmannanshire, as assistant to the late George Inglis. In 1932 he returned to his native county as Assistant County Veterinary Officer, and later he succeeded the late James McDougall as County Veterinary Officer. In April, 1938, he joined the Animal Health Branch of the Ministry of Agriculture and Fisheries and remained in the county of Dunbarton. In April 1956 he was promoted to the rank of Divisional Veterinary Officer and was transferred to the county of Dumfries.

He was proud of his native county, and so often expressed his desire to remain for the rest of his life on Loch Lomondside. Cheerful by nature, Archie was welcomed into any company. His optimistic outlook and his unfailing good humour enriched the lives of all who had the privilege of knowing him. He had a high sense of duty and was unswerving in his loyalty to his many friends. Of noble character, he was held in the highest esteem by the agricultural community in Dunbartonshire and Dumfriesshire.

The sympathy of the community is extended to his devoted wife, Ella, and their four sons, Alastair the eldest in Hong Kong, Allan the youngest in Cyprus, and Andrew and Gordon at home.

Archie McNiven's popularity was easily appreciated at his funeral, which took place on November 4th, when some 150 mourners accompanied his remains to his last resting place in his native Alexandria, overlooking the countryside which he loved so much.

Amongst the many friends attending the funeral, the following veterinary surgeons and colleagues were noted: Messrs. Munro, Smith, Fraser, Macleod, Ewart, Nicol Nicolson, James Nicolson, Chesters, McKenzie, Smith, Chapman, McDougall, Graham, Miller, Boyle, McEnhill, MacColl, and Grant. There were also representatives from Dunbarton County Council and from Dunbartonshire Constabulary.

PERSONAL

Births

BOYD.—On November 1st, 1957, to Gillian, wife of James W. Boyd, B.V.SC., M.R.C.V.S., of "Clint," Parade, Chudleigh, Devon, a son, Andrew James.

JONES.—On November 7th, 1957, to Fernie (*née* Patten) and Ted Jones, M.R.C.V.S., Roland House, Headcorn, Kent, a daughter, sister for Nicholas.

COMING EVENTS

November

18th (Mon.). 8th Annual Dinner-Dance of the University of Bristol Centaur Society at the Berkeley Bristol.

20th (Wed.). Meeting of the British Small-Animal Association, Midland Region, at The Flying Horse Hotel, The Poultry, Nottingham, 2.30 p.m.
Meeting of the Scottish Metropolitan Division in the Royal George Hotel, Perth, 2.30 p.m.

21st (Thurs.). Autumn Meeting of the Dumfries and Galloway Division in the Ernespie Hotel, Castle Douglas, 2.15 p.m.
General Meeting of the Herts and Beds Veterinary Society at the Cresta Ballroom Restaurant, Alma Street, Luton, 7.30 p.m.

22nd (Fri.). Ordinary General Meeting of the Royal Counties Veterinary Association at the Caversham Bridge Hotel, Reading, 2.30 p.m.

27th (Wed.). Southern Counties Veterinary Society and N.A.A.S. Joint Grassland Symposium at the Royal Hotel, Winchester, 8.15 p.m.
Meeting of the Scottish Regional Group of the A.V.T. & R.W.s. in the Pathology Lecture Room, The Royal (Dick) School of Veterinary Studies, Edinburgh, 9, 2.15 p.m.

29th (Fri.). Golden Jubilee Dance of the North of Ireland Veterinary Association at the Grand Central Hotel.

December

4th (Wed.). 21st Anniversary Dinner and Dance of the Sussex Veterinary Society at the Regent Restaurant, Brighton, 7 p.m.

5th (Thurs.). General Meeting of the Central Veterinary Society at the Royal Veterinary College, Camden Town, N.W.1, 6 p.m.
Ordinary Meeting of the Ayrshire Veterinary Association in the Ailsa Lounge, Station Hotel, Ayr, 2.30 p.m.

11th (Wed.). Ordinary General Meeting of the Sussex Veterinary Society at the Old Ship Hotel, Brighton, 2.30 p.m.

PARLIAMENT

Argentine Meat

In answer to a question (November 11th), Mr. Godber said that, on balance, the risk of importing foot-and-mouth disease through Argentine meat was outweighed by the necessity of the supplies. The duty payable on the imports of such meat greatly exceeded the compensation payable in respect of foot-and-mouth outbreaks.

Caponised Chickens

The Minister of Health stated on November 11th that the Medical Research Council had advised him that traces of oestrogen remaining in the flesh of caponised chickens was extremely small, and that neither carcinogenic nor other undesirable effects were to be expected from the use of diethylstilboestrol. Asked about recent experimental work in the United States the Minister referred to a paper published in July, 1957, stating that the amount of oestrogen in the meat of beef cattle and poultry treated with hormone injections presented no hazards to man.

XUM

GRASSLAND SYMPOSIUM

May we draw the attention of those readers who are able to travel to Winchester to a symposium, organised by the Southern Counties Veterinary Society, which is to take place at the Royal Hotel on November 27th. In association with the National Agricultural Advisory Services the following papers will be read:—

"Feeding for Production," by F. C. Collins; "Problems Arising from Present-day Feeding," J. B. Tutt, M.R.C.V.S.; "Livestock Management and its Impact on Production," F. J. Fulbrook; and "Production Problems on the Farm," B. M. Kerruish, M.R.C.V.S. The programme sounds as interesting as it is practical, and it is hoped that as many veterinary surgeons as possible will make a point of being present. Slightly fuller details are given this week in our Notices column.

ADDRESSES OF DISEASE INFECTED PREMISES

The list given below indicates, first the county in which are situated the premises on which disease has been confirmed, followed by the postal address and date of outbreak.

Anthrax

Bucks. Moat Farm, Stoke Hammond, Bletchley (Nov. 6).

Ches. Wheatsheaf Farm, North Rode, Congleton (Nov. 4); Wood Park Farm, Chester High Road, Neston, Wirral (Nov. 5).

Salop. Medley Farm, Leaton, Bowmere Heath, Shrewsbury (Nov. 6).

Staffs. Wormhill Farm, Rushton, Macclesfield, Cheshire (Nov. 4); Park Farm, Ipstones, Stoke-on-Trent; Land off Kiln Lane, Leek (Nov. 6).

Stirling. Melons Place Farm, Maddiston, Falkirk (Nov. 7).

Wigtown. West Cairngaan, Drummore (Nov. 8).

Fowl Pest

Cambs. Newton Fen, Gorefield, Wisbech (Nov. 4).

Lancs. Butterfly Hall Farm, Croston, Preston (Nov. 4); Fleetwood Farm, Bretherton, Preston, Jollys Farm, Town Lane, Much Hoole, Preston; 385, Brindle Road, Bamber Bridge, Preston; Peacock Farm, Danbers Lane, Euxton, Chorley; 1, Primrose Cottages, Danbers Lane, Euxton; 164, New Lane, Pace, Banks, Southport (Nov. 5); Fairfield, Liverpool Road, Hutton, Preston; 1, New Lane, Pace, Banks, Southport; Westfield, Skip Lane, Hutton, Preston; Brook Farm, Newton, Kirkham, Preston; 89, New Lane, Pace, Banks, Southport (Nov. 6); Brookhouse, Shirley Lane, Longton, Preston (Nov. 7); Highfield, Blackpool Road, Newton, Kirkham, Preston; Church Farm, Newton, Kirkham, Preston; Onset, Blackpool Road, Newton, Kirkham, Preston (Nov. 8); Hieland, Shaw Green, Euxton, Chorley; Meadowhead Farm, Whitehall, Darwen; Jubilee Farm, New Hey Lane, Newton, Kirkham, Preston; Moorside Farm, Cottam Lane, Longton, Preston; 83, New Lane, Pace, Banks, Southport; Brookfield Farm, Banks, Southport (Nov. 9); Sherdley Farm, Ratten Lane, Hutton, Preston (Nov. 10).

Norfolk. Keepers Cottage, Euston Lime Kiln, Little Fakenham, Thetford (Nov. 8).

Northants. 73, North Street, Stilton, Peterborough (Nov. 8).

Suffolk. The Dairy House, Ampton, Bury St. Edmunds; Holly Cottage, Fornham St. Martin, Bury St. Edmunds; 32, North Hill, Rushbrooke, Bury St. Edmunds (Nov. 4); Grove Villa, West Row, Bury St. Edmunds (Nov. 7); Rockwood Farm, Stanningfield, Bury St. Edmunds; 16, Church Close, Rode, Bury St. Edmunds (Nov. 8).

Swine Fever

Berks. Piggeries, Blacknest Farm, Brimpton, Reading (Nov. 6).

Dorset. 93, Newton, Sturminster, Newton (Nov. 4).

Hants. Weydown Farm, Chase Lane, Lindford, Bordon (Nov. 4); Melchett Court Farm, Sherfield English, Romsey; Danestream Farm, Sway Road, New Milton (Nov. 5).

Lancs. Clifton House Farm, Clifton House Road, Clifton, Manchester; Daisy Nook Farm, Failsworth, Manchester (Nov. 8).

Lincs. Ash Cottage, Caltram Lane, Wrangle, Boston (Nov. 5).

Norfolk. Ashtree Farm, Acle New Road, Halvergate, Norwich (Nov. 4).

Notts. The Old Rectory, Grove, Retford (Nov. 4).

Somerset. Gold Hills Lane Piggeries, South Cheriton, Templecombe (Nov. 5).

Staffs. The Uplands, Seisdon, Wolverhampton (Nov. 6).

Surrey. Red House Farm, Elstead, Godalming (Nov. 6).

Warwicks. Grapes Villa, Kenilworth Road, Balsall Common, Coventry; The Woodyard, Meriden, Coventry (Nov. 5); Blythe House, Barston, Solihull (Nov. 8).

Yorks. Shay Poultry Farm, Drighlington, Bradford (Nov. 6); The Hirst, Midhurst Road, Wadsley Bridge, Sheffield; Beech House Farm, Grafton (Nov. 7).

CORRESPONDENCE

The views expressed in letters addressed to the Editor represent the personal opinions of the writer only and their publication does not imply endorsement by the B.V.A.

Should We Investigate "The Box?"

Sir,—Following the publication of my letter in THE RECORD on the subject of "the Box" I received a communication from Mr. N. R. Turnbull of Basingstoke, in which he informed me that a committee of the British Medical Association, with Lord Horder as chairman, had been appointed back in the twenties, to enquire into the workings of "the Box," and that the report of that Committee was to be had from the B.M.A. Accordingly, I wrote to the Secretary and received a copy of the report.

As I see it the vast majority of right-minded professional and lay people will agree with the greater part of what Mr. William Miller wrote in last week's issue; though I doubt few could express their views so admirably. When I suggested that "the Box" might be investigated by the B.V.A. I realised that there was nothing to investigate in the scientific sense; I was thinking more on the lines of pitting scientific evidence against the extravagant claims made for this apparatus, and thus exploding the claims. Mr. Miller's organisation appears to have done so already. Indeed, what useful purpose could be served by producing scientific evidence to discredit people who say they believe in fairies?

I do not see how we can invoke the Veterinary Surgeons Act as suggested in Mr. Miller Watson's letter. It has often seemed to me that the Royal College was helpless to take any disciplinary steps in far more blatant contraventions of the Act, or in cases concerning professional etiquette, etc., for want of evidence.

As far as the humane societies are concerned, there is this to be said for "the Box": if it does not do any good to a sick animal, it certainly can do it no harm, and as Mr. Miller has pointed out, inadvertently perhaps, it does not stand in the way of *vis medicatrix naturae*.

Whatever steps are taken " the Box " will still find supporters. It might serve some useful purpose if Mr. Miller's letter, together with the findings of the B.M.A. Committee, could be published in the lay press.

Yours faithfully,
HORACE BELL.

65-67, Grenfell Road,
Maidenhead,
Berks.

November 5th, 1957.

Sir,—Congratulations to Mr. Wm. C. Miller on his excellent letter with reference to " the Box." It is interesting to speculate on the types of persons likely to employ this method of diagnosis and treatment for themselves, and to consider the essential moral difference between the use of " the Box " on human and animal patients.

Broadly, it would seem that the users of " the Box " on the human side fall into two classes. Firstly, those unfortunate people who suffer from chronic, incurable, and often painful conditions who will turn from orthodox medicine to almost anything which purports to offer relief; and secondly, the lunatic fringe of hypochondriacs, psychopaths, sensation-mongers, and those whose infantile love of the mystical and the dramatic has not been overcome by a mature critical sense. With the first class one can but feel deep pity, and hope that they may gain some temporary comfort through being given renewed hope and confidence. With the second class, however, one can have little sympathy or patience, feeling that they make their own decisions and must accept responsibility for the results. Were " the Box " to die, some equally fantastic form of unorthodox treatment would be employed by such people; in fact it satisfies a craving.

However, the application of this form of treatment to animals is, morally and ethically, quite different. It is generally accepted that the incurably and painfully ill should be humanely destroyed. The lunatic fringe does not exist amongst animals, but only amongst their owners. Unfortunately the animal is not in a position to determine its own fate and should, therefore, receive protection against undesirable activities on the part of its owner or self-appointed adviser. This is, perhaps, one of the greatest arguments in favour of those sections of the Veterinary Surgeons Act of 1948, which restrict diagnosis and treatment of animals to those qualified to undertake it.

My first personal contact with " the Box " was a classic example of the above line of thought. My client was desperately ill and used " the Box " both for himself and one of his cows. In both cases the diagnosis made was fantastic and in neither case was the course of the disease affected. The owner was suffering from cancer and, I am perfectly certain, was given some renewed hope for a short while by his belief in " the Box," but the cow was suffering from advanced clinical Johne's disease! Need one say more? It would seem, then, that on moral grounds the profession should make a strong stand against such methods.

The legal aspect could make the subject of a very interesting debate. Should the Royal College prosecute the local gipsy for charming away warts on horses? Should it prosecute the aged countryman who treats lame cows by cutting out the piece of turf on which the lame foot rests and hanging it on a rose bush? It is a moot point as to whether or not the Royal College should prosecute those practising witchcraft. Perhaps exorcism would be more appropriate than prosecution; but on the other hand, if it can be proved that unnecessary suffering is caused by dabbling in such methods, then the Royal College has a duty to invoke the Act to protect both animals and owners.

Yours faithfully,
L. GUY ANDERSON.

49, Cambridge Street,
Aylesbury,
Bucks.

November 9th, 1957.

Electrical Therapy for Recumbent Cattle

Sir,—For about two years now I have been using a form of electrical therapy on recumbent cattle. It consists of using the current generated by a 6-volt electric fence and insulated wire attached to the plug lead of one's car with the engine running.

As veterinarians are well aware, a recumbent cow is a very difficult proposition, and the usual methods of attempting to get the cow on its feet can be quite painful.

I have applied this electric current to cattle which have been recumbent. It is very useful as an aid to diagnosis, and quite a powerful persuasion to induce an animal to rise. When applied to the tail a cow will, as a rule, make a vigorous attempt to rise. Applied to various muscle groups, it is possible to give a massaging effect and restore circulation, particularly if the cow has been lying on one leg. In the case of obturator paralysis following calving, application of the electrode to the affected leg gives no reaction at all; but if sensation is returning to the leg, progress is soon indicated. Recumbent cases due to pain and swelling of the joints can usually be induced to rise by application to the affected joints.

This form of electrical therapy is by no means a panacea, but it may with advantage be resorted to early in cases of this type.

Yours faithfully,
P. THOMAS.

42, Warley Wood Avenue,
Luddendenfoot,
Halifax.

October 29th, 1957.

Echinococcus Infection in the Fox

Sir,—I was very interested to read the letter from Mr. Gemmell in your issue of October 26th and I should like to make one or two comments. Mr. Gemmell states that the rabbit is not usually regarded as a suitable intermediate host of Echinococcus spp. and yet Baylis (1929), Neveu-Lemaire (1936), and Lapage (1956) all include the rabbit in the lists of intermediate hosts of *E. granulosus*. It is apparent that earlier writers have confused the different species of Echinococcus but nevertheless it seems clear that the rabbit may act as an intermediate host of some species of Echinococcus. Furthermore, Mr. Gemmell himself (1957) found, during a survey in Australia, that 19 per cent. of 141 rabbiting dogs were infected with *E. granulosus*, although, as he pointed out, this high incidence could be attributed to the fact that the owners fed infected offal to supplement the diet of the dogs during the dearth of rabbits due to the epidemic of myxomatosis. However, I consider that we cannot dismiss the rabbit as a possible host of Echinococcus spp. without further investigation.

At the time of writing my previous letter (1956), I was aware of the work of Rausch and his colleagues (1954) in Alaska, but not that of Vogel (1955, 1957). However, through the kindness of Professor Vogel, I have been allowed to study some of his material, and in consequence will readily agree with Mr. Gemmell that the worms I found in the foxes could have been *E. multilocularis*. Unfortunately, material is not available to confirm this possibility and in spite of examining 89 further fox carcases, mostly killed in Cardiganshire, I have not found any more to be infected. This negative evidence may be significant, as rabbits are still few and far between in this area. However, not only have I found it difficult to obtain fox carcases for examination, but also even more difficult to obtain the carcases in a reasonably fresh condition.

My original suggestion of a fox–rabbit cycle for Echinococcus spp. assumed that rabbits formed a considerable part of the diet of foxes. I am not sure now whether this assumption is true, or rather was true, when rabbits were available. Foxes examined in this laboratory have shown no evidence of malnutrition, and the principal item of diet seems at present to be voles and small mice. It is not clear whether, in fact, there has been any major change in the diet of foxes since the onset of myxomatosis in this area. Another interesting fact is that only rarely have we found evidence that our foxes have been feeding on sheep or lambs.

With regard to the finding of the infected foxes in 1955, it seems to me that there are two possibilities: either (1) the foxes harboured *E. granulosus* and therefore must have had access to offal or other infected material such as the carcases of rabbits, hares, or squirrels (which have also been described as intermediate hosts), or (2) the foxes harboured *E. multilocularis* and the possibility must be considered that the fox–vole cycle as described by Vogel also occurs in Great Britain. In either case the incidence of vulpine infection appears to be fairly low in this area, and it will be interesting to see whether any additional evidence on incidence becomes available from other laboratories examining fox carcases. In this laboratory it is hoped to examine some voles in order to see if the larval stage of *E. multilocularis* can be found.

Finally, I should like to support Mr. Gemmell in the hope that this correspondence will stimulate further investigation into the life cycle of Echinococcus spp.

Yours faithfully,
K. B. SINCLAIR.

Dairy Buildings,
Llanbadarn Road,
Aberystwyth.

November 6th, 1957.

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The "Rights" of Animals

Sir,—Professor McGaughey in his summing-up reminds me of the benevolent chairman of a TV panel game who has slightly missed the point. The proposition is *not* excessive sentimentality of animal lovers but that man has certain obligations towards animals and they have certain rights: it is a philosophical question. To me, as I said before, it really boils down to the question " do animals possess souls?" I believe *a few* animals do and again *a few* human animals don't.

To quote some obscure Papuan tribal rites (I wonder what the public health authorities think of this revolting business which the Papuans may, of course, think quite *"wrong"* and do out of sheer cussedness) in bolstering up authority against reason is sad indeed in this day and age.

Yours faithfully,
J. H. WILKINS.

Albert Lodge,
Alexandra Road,
Farnborough,
Hants.

November 12th, 1957.

Sir,—Now that human fiendishness and treachery have freed themselves from the narrow confines of the world and for the first time in history are able proudly to manifest themselves on a cosmic stage, perhaps even Mr. Bongard's misty-eyed faith in the glory of mankind has been just a little shaken.

It is rather a coincidence that the columns of THE VETERINARY RECORD should be discussing the question of the "rights" of animals at the moment in history when this great moral question has made perhaps its greatest impact upon the soul of mankind, but this is very apt, because none should be more concerned for the welfare of all animals than the world's veterinary surgeons. The measure of our passionate concern for the well-being of our patients is the measure of our status as a profession.

We can have no possible interest in the hollow triumph involved in sending a rocket 1,000 miles away from the earth, but our love and prayers are centred on the prisoner inside.

Perhaps Russian veterinary surgeons are dignified by the title of Doctor, and maybe they even have the honour of controlling meat inspection in their country, but they are traitors to our profession if they do not raise one protesting voice against the exploitation of an animal in this fearful way.

During this controversy there has been an underlying suggestion that the British people are particularly—and somewhat hypocritically—sensitive to "cruelty to animals," because of a whimsical and sentimental attachment to dogs. This is very far from the truth. Compassion for all life is the basis of the world's greatest religion, Buddhism, claiming the allegiance of one-third of humanity and established as a vital force for 2,500 years.

Perhaps I may claim a little more of your valuable space to quote a fragment of the teaching of Buddha, which, in the beautiful verse of Sir Edwin Arnold's "The Light of Asia" puts our case in sublime language and lifts it far above the vulgar arena of controversy.

"Then, craving leave, he spake
Of life, which all can take but none can give.
Life, which all creatures love and strive to keep,
Wonderful, dear, and pleasant unto each,
Even to the meanest; yea, a boon to all
Where pity is, for pity makes the world
Soft to the weak and noble for the strong.
Unto the dumb lips of his flock he lent
Sad, pleading words, showing how man, who prays
For mercy to the gods, is merciless,
Being as god to those; albeit all life
Is linked and kin, and what we slay have given
Meek tribute of the milk and wool, and set
Fast trust upon the hands which murder them."

Yours faithfully,

F. B. EDWARDS.

Newgate,
Llanbrynmair,
Mont.

November 9th, 1957.

Sir,—The correspondence on the above subject has produced a variety of opinions regarding the "rights" of animals from persons dedicated to their service. The majority express views indicating tendencies to megalomania and rising to a patronising toleration of any other species.

As I wrote earlier, merciful slaughter of the weaker by the stronger is justified only by stern necessity involving our own preservation. We therefore accord "rights" to animals during their lifetime, even though we kill and eat them when they are fat. We need concern ourselves only with those capable of experiencing mental and physical suffering; our conscience need not cause us to sweep aside the tapeworms, mosquitoes, bed bugs, or scorpions. Admittedly, the fox is a disgrace to his kind, a killer but a notable exception. In a higher sphere of life he might have qualified as a sportsman.

It was as great an authority as Dryden who wrote, "How dull, how insensible a beast is man, who yet would lord it o'er the rest." Surely, a little more humility, a shade more humanity in our philosophers, need not antagonise their Christian principles?

Yours faithfully,

R. H. SMYTHE.

6, Peveril Drive,
The Park,
Nottingham.

November 10th, 1957.

Sir,—My apologies to the parasite. I must confess that I had not considered that a tapeworm after its death might require a celestial host. On the other hand, I had not really considered the possibility of the host after death possessing an alimentary canal or indeed anything approaching its earthly form.

It would, of course, be absurd to imagine a pack of celestial hounds (containing celestial tapeworms) chasing a celestial fox that had recently made a meal of a celestial hen. I find it, however, equally difficult to imagine the human animal continuing to exist in anything like his earthly form.

If we consider that the life and personality only of the human exists after death, it is to my mind reasonable to assume that the life and personality of the higher animals do likewise. If this is acceptable it does not appear to me logical that anywhere in the evolution of the animal kingdom there should be a dividing line above which the spark of life in the animal becomes immortal. In that case, it becomes necessary to concede this to the lower animals, even down to the elementary forms. In my earlier letter, I stated my theory that this essence of life which I considered comprised the soul of the animal would be present to a lesser or greater degree according to the mental and anatomical development of the species.

It may appear that this theorising is a complete

waste of time to a practical man, having regard to the impossibility of proving the matter one way or the other. It should be borne in mind, however, that faith in God and an after life has existed for a very long time, and that dogma in religion in a scientific world is fast bringing about its own downfall either by agnosticism or by plain unbelief. If one can adapt one's own faith to make a little more scientific sense, it surely must help, if only to one's own peace of mind?

Yours faithfully,
L. W. FULLER.

Braeside,
Dulverton,
Somerset.

November 11th, 1957.

Radioactivity Risks for Animals

Sir,—The White Paper on the Windscale accident does not mention hazards to livestock and gives no guidance for veterinary action should similar problems arise. This adds point to the plea put forward by your correspondents Dr. Tom Hare and Mr. B. V. Jones that the B.V.A. take active steps to review existing knowledge of radioactivity risks and to acquaint not only the veterinary profession but the agricultural industry as a whole with all relevant information and advice that can be obtained.

According to press reports official assurance has been given that the health of farm animals grazing on the 200 square miles around Windscale has not been affected. There is evidence that the thyroid uptake of radio-iodine by dairy cows is several times greater than that secreted in the milk. It is therefore difficult to reconcile the possibility of risk for humans with the absence of risk for the cow.

Yours faithfully,
G. CALDERBANK.

Chile House,
20-24, Ropemaker Street,
London, E.C.2.

November 12th, 1957

Small-animal Practice in the U.S.A.

Sir,—The report of veterinary student, A. J. Bacon, in the October 12th, 1957, issue of THE VETERINARY RECORD was certainly most flattering to our American small-animal veterinary practice. We, too, are proud of our achievements. However, there is likely to be some misconception arising from the statement that every veterinarian visited is doing research or planning to return to college for another degree.

I do not question the validity of Mr. Bacon's report, but one should not assume that statement to apply to American veterinarians in general. A great majority are not doing research of any formal sort, nor are they planning to leave their practices for any extended period of time to advance their education.

Like our counterparts in Britain, most of us must devote our time to making a living to support our families and fulfilling obligations to our clients.

Yours faithfully,
ARTHUR FREEMAN,
Professional Service Department.

Jensen-Salsbery Laboratories, Inc.,
21st and Penn Streets,
Kansas City, 41,
Missouri.
U.S.A.

November 7th, 1957.

New Veterinary Organisations

Sir,—Is it not time that a halt was called to the formation of further Divisions of the B.V.A.? I am sure that most general practitioners find it difficult enough to attend the meetings of the established Divisions especially when, like myself, they live some 30 miles from the nearest meeting place. The regrettable tendency always to hold meetings at the same place makes things even more difficult for those in outlying parts of the Division.

We now have a further body launched, apparently, with considerable expense on advertising and postal exhortations to members to enrol. This Small-Animal Association appears to be a country-wide organisation overlapping areas already covered by an existing organisation, namely the B.V.A. Surely this can only lead to friction? Will the Small-Animal Association be followed in due course by bovine, ovine, and porcine off-shoots? Is there not sufficient outlet for those wishing to present papers, whether relating to small or large animals, through the established divisions of the B.V.A. or the columns of THE RECORD?

Might I suggest that those who feel that they have insufficient outlet for their energies could be of great service to the profession in another way? All sorts of lay advice and opinion on veterinary matters are constantly being ventilated in the press. Recently there has been considerable correspondence in *Horse and Hound* on a matter of some importance under the heading "Vets. and the Dealer." I wrote a couple of letters to state my personal views on this matter fully expecting a barrage in defence of the profession from more authoritative sources, but not a single letter was forthcoming.

Would it not be of great help if those with time to spare spent it on presenting the professional point of view in the lay press? Such staunch upholders of the profession as Dr. Tom Hare could do with a great deal more support than they receive at present.

Yours faithfully,
HAROLD L. SMITH.

Manor House,
Rowde,
Devizes.

November 11th, 1957.